ABSTRACT OF THE DISCLOSURE

A low density iron based alloy for golf club heads consists of essentially 25 to 31 wt % manganese, 7 to 10 wt % aluminum, 5 to 7 wt % chromium, 0.9 to 1.1 wt % carbon and selective addition of 0.8 to 1.5 wt % silicon or 2 to 5 wt % titanium or 0.5 to 1 wt %, molybdenum, wherein the balance being iron. Due to the addition of silicon and chromium, the alloy of the invention has an excellent resistance to corrosion. After the alloy has been forged or cast, and then treated under different operational conditions of thermal treatment over several periods. The alloy with low density, high ductility, excellent resistance to corrosion and good finished surface quality is obtained to satisfy requirements of mechanical properties of heads of golf clubs.